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## Editorial

# Advanced Green Energy Nanomaterials for Optoelectronic Devices: Synthesis, Processing, Characterization, and Applications

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Advanced green energy nanomaterials in the applied science fields have received increasing attentions because of their unique physical and chemical properties. Their dominant roles are established in our science and society and their applications penetrate into our daily life and the influence impact is significant. This special issue aims at identifying the current status and anticipating future directions in this emerging field via fusions of civil engineering, environmental science, chemistry, and materials science and antieotoxic technologies. With the unique structures and novel properties of the nanomaterials, the applications cover a wide range of key components or products, such as light-emitting diodes (LED), solar cell devices, nanocomposites, optical materials, functional materials, and other related advanced nanomaterials.

Five research articles were accepted in this special issue, including papers on synthesis of functional nanomaterials and analysis, synthesis of nitride for LEDs, optimized TTP processes to CNT-based materials, and nanocrystalline nitrides growth. For synthesis of nanomaterials, the papers indicated that the properties of the nanocrystalline TiZrN thin films changed with nitrogen flow rate above 1.0 sccm because the films contained a stable single phase (TiZrN).

For thin films growth, the papers are about the thin films and their physical properties. One tried to describe how AZO

films can be used as the transparent conducting oxide thin films. In addition, ZnO thin films were deposited by CVAD at room temperature for flexible devices. For the optoelectronic performance of GaN-based light-emitting diodes devices, fabrication of FTP-PSSs is helpful in improving the crystal quality of GaN epilayer.

We hope that this special issue provides the readers with an overview of the recent progress achieved and the future developing directions in the advanced green energy nanomaterials synthesis technology. This special issue will be a valuable reference and a perspective for the research community working in this exciting field and can inspire more engineers and scientists.

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